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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,271	10/31/2003	Dennis M. News	YOR920030500US1	9194

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EXAMINER
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HARRIS, GARY D

ART UNIT	PAPER NUMBER
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1773

MAIL DATE	DELIVERY MODE
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09/28/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/697,271

Applicant(s)

NEWNS, DENNIS M.

Examiner

Gary D. Harris

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 16-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 16-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

Double patent rejection is withdrawn. Applicant's arguments are persuasive.

Applicant's arguments, see pages 6-9, filed 7/5/07, with respect to the rejection(s) of claim(s) 1-9 & 16-20 under 35 USC 102 & 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Ramesh et al. US 6,642,539.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10 & 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ramesh et al. US 6,642,539.

As to Claim 1, 5, 10, 16 Ramesh et al. '539 discloses a memory (storage medium) and method of obtaining a barrier layer from a conductive material (metallic underlayer) with ferroelectric memory cells (Col. 9, Line 14-23) see figure 8. Additionally, Ramesh et al. '539 discloses a total resistance of the barrier decreases

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with the barrier thickness and with the area of the barrier as it relates to desired switching time. But, does not disclose charge migration rate of the ferroelectric data layer. Claim 1 seems to be identical, except that the prior art is silent as to the inherent characteristics.

Ramesh refers to materials that can be made electrically leaky depending on the thickness of the material in bulk (Col. 10, Line 63-67), which would be similar to applicants charge migration rate. These properties are inherent in physical properties including charge migration because the applicants and the inventors teach virtually identical structures with similar materials. The physical properties of similar materials will inherently be similar. The burden of proof is shifted to the applicant to show the prior art properties are different from those claimed. See *In re Fitzgerald*, 619 F. 2d 67, 205 USPQ 594 (CCPA 1980).

As to Claim 2, Ramesh et al. '539 discloses the functional metal oxide layer and any intermediate metal oxide while the top contact layer to the bottom are given a conductive pathway (Col. 9, Line 24-49). Table 4 lists materials that can be utilized that would encompass applicants claim (Col. 14, 15, Line 35-68, 1-15 resp.).

As to Claim 3, Ramesh et al. '539 discloses a conductive barrier layer of (La, Sr) TiO<sub>3</sub> (Col. 4, Line 59).

As to Claim 4, 16, Ramesh et al. '539 discloses the use of doped perovskite (Col. 6, Line 10-36).

As to Claim 6, 9, 18, 19, Ramesh et al. '539 discloses thicknesses less than 3 to 50 nm and would encompass claim (Col. 10, Line 29-43).

As to Claim 7, 20 Ramesh et al. '539 discloses the use of  $\text{SrRuO}_3$  results in a conductive oxide that bonds well with substrate (Col. 8, Line 49-64).

As to Claim 8, Ramesh et al. '539 the use of PZT and SBT (Col. 3, Line 45-65).

References not relied upon are cited as art of interest.

Column and line numbers are provided for convenience. However, the entire reference should be considered.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary D. Harris whose telephone number is 571-272-6508. The examiner can normally be reached on 8AM - 5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carol D. Chaney can be reached on 571-272-1284. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

GH



**HOLLY RICKMAN  
PRIMARY EXAMINER**